

JUL 25 2005

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**Applicant: **Clifford L. Smith**Serial No.: **10/798,768**Group No.: **1762**Filed: **3/11/2004**Examiner: **TUROCY, David P.**For: **COMPOSITE TOOL COATING SYSTEM****DECLARATION UNDER 37 C.F.R. Section 1.132**

I, Clifford L. Smith, declare and say:

That I am a citizen of the United States of America and I reside at PO Box 704, Capitan, NM 88316.

That I attended Oklahoma State University, located in Stillwater, Oklahoma, part-time for one and a half years, and the University of Houston's School of Engineering, located in Houston, Texas, part-time for seven years. That in 1982 I attended Stanford University, located in Stanford, California, completing their Graduate School of Business "Executive Program."

That I have 35 years experience in the engineering field beginning in Project Engineering with York Corporation in 1969. Since that time I served as president of three companies that had operations throughout the United States. These companies were engineering oriented and included oil and gas compression packaging, large industrial refrigeration systems and computer chassis manufacturing to name a few. One of these companies directly employed more than 350 people.

That for fourteen years I have been working in the field of metal finishing, to include creating or repairing the service area of components and the application of various coating materials applied by differing application techniques and equipment. I have been President of

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DCI Industries, a metal finishing company since 1993. DCI "Duracoatings" provides metal finishing globally for many industrial uses. Metal finishes we provide include industrial nickel, industrial hard chrome, twin arc spray metal, plasma arc spray metal, and HVOF spray metal. We have grinders that can provide finished parts up to 26 feet long and 36 inches in diameter. Our customers include many of the Fortune 500 companies. As President and technical director of Duracoatings we have created and provided metal coatings for both new and repair service areas of industrial parts. We have successfully accomplished the remanufacturing of millions of automotive engine valves, aircraft parts, industrial rollers, turbine engine rotors, drilling tools and hydraulics with our metal finishing technology and capabilities. As hard chrome platters we were one of the innovative leaders in the industry by adding early on the new technology of spray metal to our capabilities.

That, among other memberships, I am currently a member of the Stanford University Alumni, the Oklahoma Manufacturing and Economic Development Committee, and The American Electroplaters and Surface Finishers Society (AESF).

That I am familiar with the above-identified patent application, Application No. 10/798,768 ("the claimed invention"), and with the following references cited by the Examiner: U.S. Patent No. 6,073,648, by Watson et al. ("Watson") and U.S. Patent No. 4,889,602, by Oshima et al. ("Oshima").

That, in my opinion, the process of the claimed invention is unobvious to one skilled in the art because of unexpected results achieved in the duration of part service area wear life. The following table shows the anticipate wear life duration of a typical part service area as contrasted to the achieved wear-life durations achieved by a part conditioned by the process included in the claimed invention.

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**Severe Duty Drilling Tools In Dynamic Wear Environment****Part Life (Weeks of Service)**

Coating (on base metal part)	Nickel Chrome	HVOF Spray Metal (direct to base metal)	Nickel Sub coat with HVOF Topcoat
Expected Life	1-3	3-6 <sup>1</sup>	4-9 <sup>2</sup>
Actual Life	1-3	3-6 <sup>1</sup>	15-20+ <sup>3</sup>

**NOTES:**

1 – Based on spray metal sales information and user feedback.

2 – Based on anticipated additive effect.

3 – Last shipment of 30 parts in February 2005. Customers report all parts still operating.

That, in my opinion, the process of the claimed invention is unobvious to one skilled in the art because of commercial success achieved in providing parts conditioned by the process included in the claimed invention to the marketplace. The following facts show the interest and demand for conditioning parts by the process included in the claimed invention.

That a single serious failure of a part can cost a customer in excess of \$50,000, and that the customer who is using the thirty (30) parts shipped in February 2005 had initially tested two (2) parts, before requesting four (4) more and then eight (8) more parts to test and use. This customer has a numerous additional parts at Duracoatings' facility for coating by the inventive process. Other customers want similar parts, but have been unwilling to agree to keep the invention confidential or agree to not duplicate the process on their own if they knew it.

That, in my opinion, the process of the claimed invention is unobvious to one skilled in the art because of long felt but unsolved needs and failure of others. That our customers such as

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Halliburton, Smith International, National Oil Well, and Baker Hughes have told us they have spent huge sums and resources researching the tool durability problem without comparative success. Additional hundreds of millions of dollars have been spent on the search for a replacement for industrial Hexavalent chromium, including efforts by the Department of Defense who have a Hard Chrome Alternative Team (HCAT) and the Air Force Research Laboratory (AFRL) serious seeking solutions to the problem. These are both problems the current invention successfully addresses.

That the undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United State Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon;

Further declarant saith not.

signed: Date: 7/25/05